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10/542,853	07/11/2005	Naoharu Yanagawa	041465-5266	7322

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EXAMINER
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PATANKAR, ANEETA V

ART UNIT	PAPER NUMBER
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4134

MAIL DATE	DELIVERY MODE
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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/542,853	<b>Applicant(s)</b> YANAGAWA ET AL.	
	<b>Examiner</b> ANEETA PATANKAR	<b>Art Unit</b> 4134	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/11/2005</u> .   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-7, 11-15, and 18-21** are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent Pub. 2002/0114249 to *Kato et al.*

As to **claim 1**, *Kato* discloses a tracking servo control device for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, comprising: a first generation device which generates a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit is formed within a radiation range of the light beam onto the groove track (Fig. 6, paragraphs 40-41); a second generation device which generates a second regenerative signal based on a reflected light from the recording medium when the pre-pit is formed outside the radiation range of the light beam (Fig. 13A-B, paragraphs 70-71); and a calculation device which calculates an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated (Fig. 6, paragraphs 42-44).

As to **claim 2**, *Kato* discloses the tracking servo control device, wherein the calculation device calculates the offset value so that a difference between the

amplitude value of the first regenerative signal and the amplitude value of the second regenerative signal is minimized (Fig. 20C, paragraph 96).

As to **claim 3**, *Kato* discloses the tracking servo control device, wherein the calculation device calculates the offset value so that a difference between the lower peak value of the first regenerative signal and the lower peak value of the second regenerative signal is minimized (Fig. 7, paragraph 52).

As to **claim 4**, *Kato* discloses the tracking servo control device, wherein the calculation device calculates the offset value so that difference between the upper peak value of the first regenerative signal and the upper peak value of the second regenerative signal is minimized (Fig. 20C, paragraph 96).

As to **claim 5**, *Kato* discloses the tracking servo control device, wherein the calculation device calculates the offset value so that the sum of an error count of information obtained from the first regenerative signal and an error count of information obtained from the second regenerative signal is minimized (Fig. 6, paragraph 41).

As to **claim 6**, *Kato* discloses a tracking servo control device for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, comprising: a first generation device which generates a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit adjacent to the information pit in one direction is formed within a radiation range of the light beam onto the groove track (Fig. 6, paragraphs 40-41); a second

generation device which generates a second regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit adjacent to the information pit in another direction is formed within the radiation range of the light beam (Fig. 13A-B, paragraphs 70-71); and a calculation device which calculates an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated (Fig. 6, paragraphs 42-44).

As to **claim 7**, *Kato* discloses the tracking servo control device, wherein the calculation device calculates the offset value so that a difference between the amplitude value of the first regenerative signal and the amplitude value of the second regenerative signal is minimized (Fig. 7, paragraph 52).

As to **claim 11**, *Kato* discloses the tracking servo control device wherein the calculation device calculates the offset value so that the sum of an error count of data obtained from the first regenerative signal and an error count of data obtained from the second regenerative signal is minimized (Fig. 6, paragraph 41).

As to **claim 12**, *Kato* discloses the tracking servo control device wherein the calculation of the offset value by the calculation device is made employing the information pits formed in a continuous area where the information pits are formed (Fig. 5, paragraph 38).

As to **claim 13**, *Kato* discloses the tracking servo control device wherein the calculation of the offset value by the calculation device is made employing

the information pits formed in a linking area of the recording medium (Fig. 2, paragraphs 45-46).

As to **claim 14**, *Kato* discloses the tracking servo control device, wherein the calculation of the offset value by the calculation device is made employing the information pits formed in a preset area for adjusting the light quantity of the light beam (Fig. 5, paragraph 38).

As to **claim 15**, *Kato* discloses the tracking servo control device, wherein the calculation of the offset value by the calculation device is made employing the information pits formed in one area of the recording medium where the information pits are formed (Fig. 5, paragraph 38), the information pits being subjected to an error detection/correction with an error detection/correction code (Fig. 6, paragraph 41).

As to **claim 18**, *Kato* discloses a tracking servo control method for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, comprising: a first generation step of generating a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit is formed within a radiation range of the light beam onto the groove track (Fig. 6, paragraph 40-41); a second generation step of generating a second regenerative signal based on a reflected light from the recording medium when the pre-pit is formed outside the radiation range of the light beam (Fig. 13A-B, paragraphs 70-71); and a calculation step of calculating an offset value in the tracking servo control based

on the first regenerative signal and the second regenerative signal that are generated (Fig. 6, paragraph 42-44).

As to **claim 19**, *Kato* discloses a tracking servo control method for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, comprising: a first generation step of generating a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit adjacent to the information pit in one direction is formed within a radiation range of the light beam onto the groove track (Fig. 6, paragraphs 40-41); a second generation step of generating a second regenerative signal based on a reflected light from the recording medium when the pre-pit adjacent to the information pit in the other direction is formed within the radiation range of the light beam (Fig. 13A-B, paragraphs 70-71); and a calculation step of calculating an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated (Fig. 6, paragraphs 42-44).

As to **claim 20**, *Kato* discloses a tracking servo control program for a tracking servo control device for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, the program makes a computer contained in the tracking servo control device function as: a first generation device for generating a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit is formed within a radiation range of the light beam onto

the groove track (Fig. 6, paragraphs 40-41); a second generation device for generating a second regenerative signal based on a reflected light from the recording medium when the pre-pit is formed outside the radiation range of the light beam (Fig. 13A-B, paragraphs 70-71); and a calculation device for calculating an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated (Fig. 6, paragraphs 42-44).

As to **claim 21**, *Kato* discloses a tracking servo control program for a tracking servo control device for making a tracking servo control to apply a light beam onto a groove track on a recording medium where the groove track and a pre-pit are preformed, the program makes a computer contained in the tracking servo control device function as: a first generation device for generating a first regenerative signal based on a reflected light from the recording medium when at least a part of the pre-pit adjacent to the information pit in one direction is formed within a radiation range of the light beam onto the groove track (Fig. 6, paragraphs 40-41); a second generation device for generating a second regenerative signal based on a reflected light from the recording medium when the pre-pit adjacent to the information pit in the other direction is formed within the radiation range of the light beam (Fig. 13A-B, paragraphs 70-71); and a calculation device for calculating an offset value in the tracking servo control based on the first regenerative signal and the second regenerative signal that are generated (Fig. 6, paragraphs 42-44).



***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 8-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. 2002/0114249 to *Kato et al.* in view of U.S. Patent No. 6,058,093 to *Kato et al.* 2.

As to **claim 8**, *Kato* is deficient to disclosing the tracking servo control device, further comprising a third generation device for generating a third regenerative signal based on a reflected light from the recording medium for the light beam when the pre-pit is formed outside the radiation range of the light beam, wherein the control device calculates the offset value so that a difference between the upper peak value of the third regenerative signal and an average value of the upper peak value of the first regenerative signal and the upper peak value of the second regenerative signal is minimized.

However, *Kato 2* discloses the tracking servo control device, further comprising a third generation device for generating a third regenerative signal based on a reflected light from the recording medium for the light beam when the pre-pit is formed outside the radiation range of the light beam (Column 6, lines 1-

7), wherein the control device calculates the offset value so that a difference between the upper peak value of the third regenerative signal and an average value of the upper peak value of the first regenerative signal and the upper peak value of the second regenerative signal is minimized (Column 6, lines 40-67).

*Kato* and *Kato 2* are analogous art because they are from the same field of endeavor with respect to pre-pit detection on an optical medium.

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to create a servo control device that comprises a first, second and third generation device for generating a first, second and third regenerative signal, respectively. The suggestion/motivation would have been in order to maximize the detection margin and a pre-pit can be accurately detected as taught by *Kato* in view of *Kato 2* (Column 6, lines 40-67).

As to **claim 9**, *Kato* is deficient to disclosing the tracking servo control device, further comprising a third generation device for generating a third regenerative signal based on a reflected light from the recording medium for the light beam when the pre-pit is formed outside the radiation range of the light beam, wherein the calculation device calculates the offset value so that a difference between the lower peak value of the third regenerative signal and an average value of the lower peak value of the first regenerative signal and the lower peak value of the second regenerative signal is minimized.

However, *Kato 2* discloses the tracking servo control device, further comprising a third generation device for generating a third regenerative signal

based on a reflected light from the recording medium for the light beam when the pre-pit is formed outside the radiation range of the light beam (Column 6, lines 1-7), wherein the calculation device calculates the offset value so that a difference between the lower peak value of the third regenerative signal and an average value of the lower peak value of the first regenerative signal and the lower peak value of the second regenerative signal is minimized (Column 5, lines 42-67). In addition, the same motivation is used as the rejection for claim 8.

As to **claim 10**, *Kato* is deficient to disclosing the tracking servo control device, wherein the calculation device calculates the offset value so that a difference between the lower peak value of the third regenerative signal and an average value of the lower peak value of the first regenerative signal and the lower peak value of the second regenerative signal is minimized.

However, *Kato 2* discloses the tracking servo control device, wherein the calculation device calculates the offset value so that a difference between the lower peak value of the third regenerative signal and an average value of the lower peak value of the first regenerative signal and the lower peak value of the second regenerative signal is minimized (Column 5, lines 42-67). In addition, the same motivation is used as the rejection for claim 8.

5. **Claims 16 and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. 2002/0114249 to *Kato et al.* in view of U.S. Patent No. 6,987,714 B2 to *Watabe et al.*

As to **claim 16**, *Kato* is deficient to disclosing the tracking servo control device, wherein the formation pattern of the information pit is constant.

However, *Watabe* discloses the tracking servo control device, wherein the formation pattern of the information pit is constant (Fig. 6A-B, column 5, lines 1-15).

*Kato* and *Watabe* are analogous art because they are from the same field of endeavor with respect to optical mediums

At the time of invention, it would have been obvious to a person of ordinary skilled in the art to create a tracking servo device with a calculating device that calculates the offset value in the tracking servo control based on the first regenerative signal and second regenerative signal and the formation pattern of the information pit is constant. The suggestion/motivation would have been in order to be able to reproduce signals from the wobble pits as taught by *Kato* in view of *Watabe* (Fig. 6A-B, column 4, lines 53-67).

As to **claim 17**, *Kato* is deficient to disclosing the tracking servo control device, wherein the information pit is employed for recording the information recorded with an error detection/correction code, and the position of the information pit on the recording medium is specified by the error detection/correction code.

However, *Watabe* discloses the tracking servo control device, wherein the information pit is employed for recording the information recorded with an error detection/correction code, and the position of the information pit on the recording

medium is specified by the error detection/correction code (Fig. 7A, column 5, lines 18-40). In addition, the same motivation is used as the rejection for claim 16.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANEETA PATANKAR whose telephone number is (571)272-9773. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LunYi Lao can be reached on (571)272-7671. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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